

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-19. (Canceled)

20. (Currently Amended) A composition for ion channel transfer which comprises a mesenchymal stem cells cell incorporated with a ~~compound~~ nucleic acid which encodes a hyperpolarization activated, cyclic nucleotide gated 2 (HCN2) ion channel in an amount ~~sufficient~~ effective to create an ion channels channel in the cell.

21-48. (Canceled)

49. (Currently Amended) A method of expressing a functional ion channel in a syncytial structure comprising: (1) preparing the composition of claim 20; and (2) administering the composition ~~of claim 20~~ to the syncytial structure.

50. (Currently Amended) The ~~syncytial structure~~ method of claim 49, wherein the syncytial structure is a mammalian heart.

51. (Currently Amended) A method of treating a cardiac ~~condition~~ rhythm disorder in a subject which comprises contacting a cell of the heart of the subject with the composition of claim 20 in an amount ~~sufficient~~ effective to increase ~~the~~ pacemaker current expression of the cell, thereby treating the ~~condition~~ rhythm disorder in the subject.

52-53. (Canceled)

54. (Currently Amended) The method of claim 51, wherein the cardiac rhythm disorder is ~~selected from a group consisting of~~ at least one of conduction block, complete atrioventricular block, incomplete atrioventricular block ~~and~~ or sinus node

dysfunction.

55. (Currently Amended) The method of claim 51, wherein the ~~step of~~ contacting is ~~selected from the group consisting of~~ effected by systemic administration to ~~the a~~ a syncytial structure ~~and or~~ injection.
56. (Currently Amended) The method of claim 55, wherein the step of administration ~~of the contacting is selected from the group comprising~~ is effected by topical application to the cells of the structure, microinjection ~~and or~~ catheterization.
57. (Currently Amended) A method of inducing a pacemaker current in ~~the a subject's~~ heart ~~in a subject~~ which comprises contacting a cell of the heart ~~of a subject~~ with the composition of claim 20 in ~~a sufficient~~ an amount effective to induce a pacemaker current in the cell of the heart ~~of a subject~~, thereby inducing a pacemaker current in the ~~cell of the heart of the subject~~.
58. (Canceled)
59. (Currently Amended) A method of inducing a pacemaker current in a cell which comprises contacting a the cell with the composition of claim 20 in ~~a sufficient~~ an amount effective to induce a pacemaker current in the cell, thereby inducing a pacemaker current in the cell.
- 60-64. (Canceled)